

Mapping Lives

Intersecting Urban History and Life Narratives in Amsterdam

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1. INTRODUCTION

In recent decades, urban studies and urban history have increasingly focused not only on the city itself but also on its inhabitants. Researchers are now more interested in how ordinary people ‘use’ the city and are affected by it. By examining how people describe their interactions with the city, we can gain deeper insights into what the city means to its residents and how it was experienced by those living in, with, and through the urban environment. This approach offers valuable insights into the social, cultural and spatial dynamics of urban life and resonates in the idea that “Any event in your life can be geo-and time-located [...]. Everyone’s life story intersects with countless others at every moment, creating ever denser webs that document the complexity of the human experience.” (Presner, Shepard, and Kawano 2014) .

In this paper, we argue that an interdisciplinary approach combining urban history with life narrative studies can provide a unique perspective on how people use and experience the city and can lead to a better understanding of the complex relationship between individuals and their urban surroundings. This approach enables us to explore the personal and collective significance of urban spaces, shedding light on how cities are shaped by the lives of those who inhabit them.

We present the work done in our Amsterdam Diaries project, part of the Amsterdam Time Machine project,^[1] in which we explore the lived experiences of the city of Amsterdam through the use of first-hand life narratives written by local inhabitants. Specifically, we focus on diaries written by women living in Amsterdam during the Second World War, which enables us to add an extra layer of personal reflections and representations of the city to existing urban research. We make use of digital methods and tools such as Geographic Information Systems (GIS) and by interlinking data extracted from these narratives with knowledge bases through Linked Open Data (LOD). Through this method, we apply these ideas to a digital interactive map of Amsterdam life narratives, which will assist research, making it easier to discern patterns and clusters of these ‘denser webs’ within and across people’s stories.

1.1. Amsterdam Time Machine

The Amsterdam Time Machine (ATM) aims to connect (heritage) data related to Amsterdam, making more information about Amsterdam's people, locations, events, organizations, and more available to a wide audience of researchers, heritage professionals, and citizen scientists. By linking the collections of multiple data providers (GLAM institutions and government entities) and making them uniformly searchable and enrichable within an open infrastructure, the Amsterdam Time Machine and its partners create an opportunity to gain deeper insights into both the history and the future of the city.

A crucial component of the Amsterdam Time Machine is its location infrastructure, which serves as the backbone for connecting and analyzing these heterogeneous collections. (Aerts, Koopmans, and van Wissen 2023) For example, the Adalink dataset provides access to historical data on Amsterdam's neighborhoods, streets, and addresses, including spelling variants, geometries, and links to external sources such as the Dutch cadaster and Wikidata^[2] (example given in Figure 1).^[3] This data is published as Linked Open Data, assigning unique identifiers to each geographical feature. As a result, others can link to this dataset and utilize its additional information, such as coordinates, by simply following these links (manually by browsing its website, or automatically through APIs). This approach not only enhances the relevance of any linked dataset or research output by integrating it into the broader network of interlinked data on Amsterdam but also saves researchers significant time. Much of the foundational information on these features is readily available and can be freely integrated, eliminating the need to manually geolocate places on a map, as this functionality is already embedded within the infrastructure.

The screenshot shows the Adalink website interface. At the top, there's a navigation bar with links: Adalink Referentiedata, Adressen, Straten, Wijken en buurten, Gebouwen, Personen, and Data. Below this is a search bar with the text 'adres of adres id' and a 'zoek' button. The search results for 'A12345' of 'Rokin 11' of 'G 7' of 'B 52' of 'https://adamlink.nl/geo/street/laanweg/2586' of 'bata 4' of '37 1091' are displayed.

The main content area is divided into two columns. The left column shows the address **A84742** for **Prinsengracht 1015**, with a dating of 1943 and a source of 'Bron: Publieke Werken kaartserie 1943'. Below this is a 'Kaart' section with a map showing the location of the address. The right column shows 'Identifiers' with the Adalink URI <https://adamlink.nl/geo/address/A84742>. Below this is a 'Locatiepunten (in rd)' table with columns for 'locatiepunt geometrie', 'huidig bagpand', and 'bouwjaar bag'.

locatiepunt geometrie	huidig bagpand	bouwjaar bag
1019047 Point (121438.70460128196282312 486128.8877671891823411)	0363100012179155	1860

Below the table, it says 'Naar BAGpanden is gezocht bij punten waar een 1943 adres mee verbonden is.' At the bottom, there's a section 'Alle adressen op deze locatiepunten' listing several addresses with their corresponding bag numbers and years.

Alle adressen op deze locatiepunten

- A84742 | Prinsengracht 1015 (1943)
- A84743 | Prinsengracht 1015 (1909)
- A84744 | AA Prinsengracht 1015 (1876)
- A84735 | AA 624 (1853)
- A84736 | 12168 (1832)
- A236182 | 58 4645 (1802)
- A236183 | 58 4646 (1802)
- A236184 | 58 4647 (1802)
- A236185 | 58 4648 (1802)
- A236186 | 58 4649 (1802)
- A236187 | 58 4650 (1802)

Figure 1: Screenshot of Adalink (<https://adamlink.nl/geo/address/A84742>), showing which information is available for a single (historical) address.

The ATM mainly operates as a networking organization, contributing to connections between heritage providers, researchers and other Local Time Machines. By serving as a bridge between these parties, the ATM enhances collaboration and promotes the integration of diverse data sources. Beyond its role in facilitating these linkages, the ATM has also developed several proof-of-concept applications and public websites that demonstrate the advantages of interconnected data. These initiatives showcase the practical benefits of linking and enriching data, highlighting how such connections can unlock new insights and make cultural heritage more accessible to a broader audience. Through these efforts, the ATM not only proves the

value of its infrastructure but also encourages further innovation and exploration in the field of digital heritage and digital humanities.

1.2. Amsterdam Diaries Time Machine

One of the public web applications of the Amsterdam Time Machine is the Amsterdam Diaries Time Machine.^[4] The project's goal is to make the life narratives of ordinary people in Amsterdam more accessible and to enhance the infrastructure for connecting a wide range of personal histories using open web standards, such as Linked Open Data and GIS. It directly utilizes the historical spatial information available within the ATM infrastructure, adding a new dimension to its application. By analyzing ego-documents, such as diaries, the project provides insights into how individuals experienced the places they wrote about in an urban environment. It also serves as a tool for analysis and helps to contextualize locations for which little information is available, for example, by offering alternative labels and linking them to other entities (such as persons and organizations) mentioned in diary fragments.

One of the public web applications of the Amsterdam Time Machine for the general public is the Amsterdam Diaries Time Machine, which was launched on 4 May 2024, National Remembrance Day, at the City Archives of Amsterdam. The project aims to make the life narratives of ordinary people in Amsterdam more accessible while enhancing the infrastructure for connecting a wide range of personal histories using open web standards, such as Linked Open Data and GIS. In its first phase, the project focused on the diaries of six women living in Amsterdam during the Second World War, offering a new dimension to the application of historical spatial information within the ATM infrastructure. By analyzing ego-documents, such as diaries, the project provides insights into how individuals experienced the places they wrote about in an urban environment. It also serves as a tool for analysis and helps to contextualize locations for which little information is available, for example, by offering alternative labels and linking them to other entities (such as persons and organizations) mentioned in diary fragments. A screenshot of one of the diary entries on the website is shown in Figure 2.

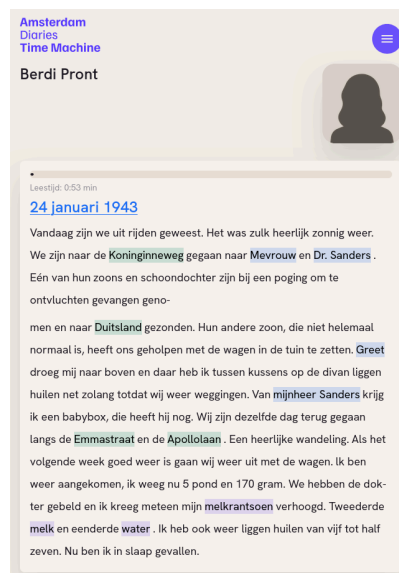


Figure 2: Example of a single diary entry of author Berdi Pront on the Amsterdam Diaries Time Machine website (<https://diaries.amsterdamtimemachine.nl>). Shown is the transcribed text, including several annotations to locations (in green), persons (blue), and food (purple).

2. METHOD

2.1. Corpus selection

The corpus of diaries was selected the basis of the following criteria:

1. A digitized/scanned copy of the diary is available in a public archive or library or is available via a central portal such as *Het Geheugen* [The Memory].^[5]
2. The diary's content deals not only with the writer's inner life but also describes the urban landscape, specifically the urban landscape of Amsterdam
3. We selected only diaries of women who lived in Amsterdam during World War II. War history often focuses on battles and soldiers, leaving women underrepresented. However, the war affected daily life, with many women active in the resistance and taking over men's jobs, such as conducting streetcars and trains or working as letter carriers. By focusing on diaries written by women during this period, we aim to counteract this bias in history writing.

The scans we used were provided by the Amsterdam City Archives,^[6] Atria - Institute on Gender Equality and Women's History,^[6] the Jewish Cultural Quarter,^[7] and the Resistance Museum.^[8] However, with the exception of the Amsterdam City Archives, these scans are not yet available in a format that allows us to work with them directly without first downloading and storing them ourselves. Until these archives implement the IIIF Image API,^[9] we must store and host the images ourselves to transcribe, annotate, and display them on the project's website. After downloading the scans, we loaded them into Transkribus, (Kahle *et al.* 2017) a tool for transcribing and annotating handwritten material.

With the help of student assistants, we processed each diary as follows:

1. **Layout identification:** We identified and tagged the structural elements on each page, including visual elements like drawings or pasted newspaper snippets, paragraphs, marginalia, headings, and page numbers. Each paragraph was individually segmented to maintain the structure for later use in adding line breaks to the running text on the website.
2. **Transcription:** The textual elements were transcribed using Transkribus HTR models and manually corrected.
3. **Annotation:** We annotated and tagged textual elements such as blackening, strikethroughs, and italics, as well as persons, organizations, places, and dates entities. We also tagged text fragments related to the theme of 'food & drinks.'

Due to temporal constraints, we further restricted this process to diary entries mentioning at least one Amsterdam related entity.

2.2. Technique and data

In the background, these data are converted into Linked Open Data and made available as JSON-LD^[10] objects that can easily serve the website. Data gathered in Transkribus, such as handwriting and annotations, is exported in Transkribus' PageXML format and then processed into Web Annotations (cf. the Web Annotation Vocabulary^[11]) of varying granularity and purpose:

1. **Transcriptions:** The transcription itself is converted into Web Annotations at the line level, storing the transcribed text in relation to its coordinates on the page.
2. **Regions and Classifications:** The regions that contain these lines, along with their classifications (e.g., heading, paragraph or visual), are stored as separate Web Annotations. This captures the necessary information to reconstruct the diary entries and

maintain the structure of each entry, including the classification in relation to the coordinates on the page.

3. **Entity and Concept Annotations:** Annotations related to persons, places, organizations, dates, and food-related concepts are stored as textual annotations. These link the classification of the annotation to the text from the first level of transcriptions by character offset.

Separate from this, metadata for individual diary entries and the diary as a whole is stored in a spreadsheet and is also converted to Linked Open Data (cf. [schema.org vocabulary](https://schema.org/vocabulary)^[12]):

1. **Diary Entry Boundaries:** Additional Web Annotations are created to indicate where a diary entry starts and ends. These annotations provide metadata on the entry's title and date (when available) and specify the regions it spans. The entry is stored as its own resource and is linked to the diary to which it belongs.
2. **Diary Metadata:** Metadata about the diary itself and the collection it belongs to is stored as a separate object. This primarily mirrors information found in the archive's or library's catalog.

As a final step, the tagged entities (i.e., persons, places, organizations) are identified and linked to their corresponding representations in existing online datasets. This was done manually in a spreadsheet and with the help of OpenRefine^[13]:

1. **Entity Linking:** People and organizations are linked to Wikidata, while place entities, such as neighborhoods, streets, and addresses, are linked to Adalink. This information is stored back in the entity annotations.
2. **Reintegration of Data:** Additionally, information from the external knowledge bases Wikidata and the Amsterdam Time Machine data, such as standardized labels, short descriptions, and coordinates (if available), is reintegrated into the diaries dataset. This enriched data can then be used on both overview and detail pages of the website.

For now, the data is loaded into a linked data store that also serves the website. The data can be downloaded as Linked Open Data (RDF^[14]) in JSON-LD format from the project's GitHub repository^[15]. Additionally, a data dump will be made available and deposited in an archival academic repository in the near future.

3. CASE STUDY

With the collected and interlinked data, we can use GIS to create visualizations of the Amsterdam life narratives. This approach is a first step toward making it easier to identify patterns and clusters within and across individual stories, ideally clarifying the role certain places play in the lives of the diary authors, as well as visually depicting how the city figures into people's lives and the role urban spaces play in their daily experiences.

To achieve this, we make use of the extra information that we obtained by linking the annotated place and organization entities (both of which have relatively fixed location information) to external datasets such as Wikidata and the Amsterdam Time Machine. Rather than manually geolocating these places, we make use of the existing geometries, geocoordinates, place types, standardized labels, and available descriptions within these knowledge graphs.

It is important to note, however, that the current corpus is relatively small, and that any case study here presented is still in the early stages of development, with limited statistical significance. For example, a straightforward descriptive analysis involves plotting all the annotated and identified place data on a map of Amsterdam, distinguishing between different diary authors. Additionally, we can plot the known home addresses of the authors on the same map, allowing for an analysis of the spatial reach of each author. While these initial studies offer

valuable insights, they are primarily exploratory and will benefit from further data expansion and refinement.

The result of such a virtualization can be seen in Figure [Figure 3](#) and shows colored points scattered over a present-day map of Amsterdam. The color indicates the author mentioning a particular location of which we normalized its geometry to be a single point (latitude, longitude). The size of the point is determined by how often the location is mentioned by the author. To prevent overlapping and therefore illegible points, each point has been plotted with a small offset to its real location. The map is generated with Folium^[16] and is interactive once loaded in a web browser, allowing for further inspection of how a particular location is mentioned in the author's diaries.

3.1. Analysis

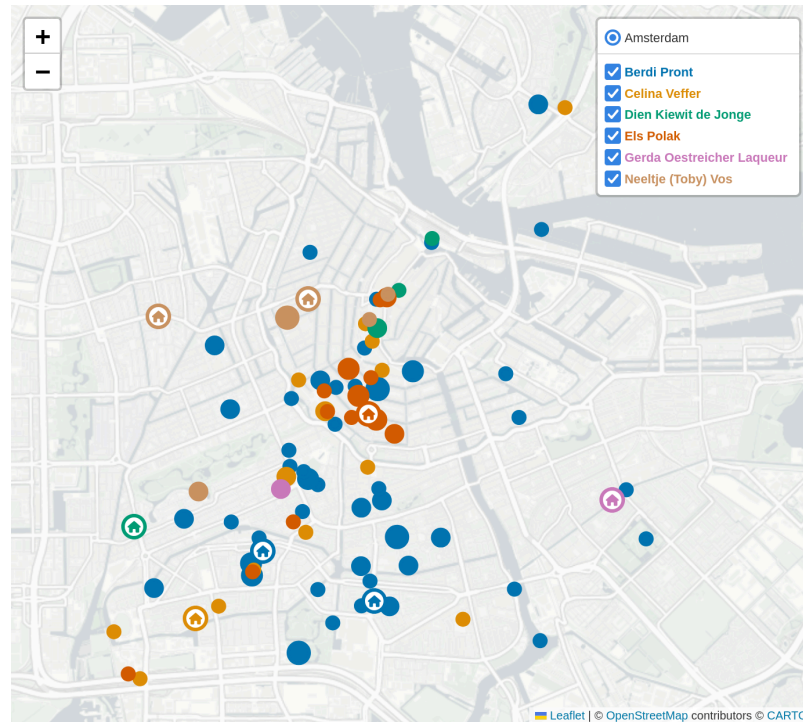


Figure 3: Overview of annotated places that are linked to external knowledge bases, colored by author. The size of the circle is determined by the frequency of each place. Additionally, if known, the residential locations in this entire time period of the authors are plotted.

Author	Linked Place Annotations	Amsterdam only
Berdi Pront	149	77
Celina Veffert	21	16
Dien Kiewit de Jonge	98	5
Els Polak	65	21
Gerda Oestreicher Laqueur	37	2
Neeltje (Toby) Vos	19	8

Table 1: Number of linked place annotations (non-unique) per author, with a separate column for linked annotations to places in Amsterdam (filtered by bounding box).

Looking at the annotation frequency statistics in [Table 1](#) and the map in [Figure 3](#), we can see that Berdi Pront's diary references the most locations. Her diary also covers the largest spatial extent, both within and outside of Amsterdam. Not only does she mention the most places,

but nearly half of these are within Amsterdam. The locations she mentions are situated both near her residence in the south of Amsterdam and in the city center.

In the following excerpt from Pront's diary, she describes hearing about a shooting in the city, specifically on *Ferdinand Bolstraat*, as relayed to her by someone working in the factories in the *Omval* neighborhood. These locations serve as a way to convey the events happening in Amsterdam and to provide context about the backgrounds and professions of those involved. Notably, the factories she mentions no longer exist, highlighting the transformation of Amsterdam over time for a present-day reader.

De Telegraaf is geweest. Een van de loopsters (bezorgsters) vertelde dat er op de Ferdinand Bolstraat een vrouw werd gewond door het mitrailleurvuur. Twee paarden voor een lijkoets zijn losgebroken. Er was paniek. Cor heeft iemand gesproken die werkzaam was aan een van de fabrieken aan de Omval. Zij moesten allemaal plat op de grond gaan liggen en hebben in doodsangst verkeerdt.

— 17 mei, 1943, Berdi Pront (Original)

The Telegraaf has been here. One of the newspaper girls reported that a woman was injured by machine-gun fire on Ferdinand Bolstraat. Two horses pulling a hearse bolted. There was panic. Cor spoke to someone who worked at one of the factories on the Omval. They all had to lie flat on the ground and were terrified.

— 17 May, 1943, Berdi Pront (Translation)

This is different for Els Polak, whose mentioned locations are almost all in the proximity of where she lives, in the center of Amsterdam. Polak mentions specific locations by their street and address, such as Leidsestraat 95 (the location of hotel and restaurant Kempinski), Prinsengracht 905 (her own address) and Prinsengracht 1015 (a place with student housing where the author visits and wants to live), as illustrated in two fragments:

M'n plan is om in een huis te gaan waar andere meisjes en jongens studenten op kamers wonen. Bijv. Pr. Gr. 1015. Ik ga er gauw eens een kijkje nemen.

— 6 maart 1941, Els Polak (Original)

My plan is to move into a house where other boys and girls, who are students, live in rooms. For example, Prinsengracht 1015. I'm going to check it out soon.

— 6 March 1941, Els Polak (Translation)

Zonet was ik op Prinsengr. 1015. Denderend. Ik had een meisje (vriendin van cursist 1e Jaars) opgebeld om haar kamer eens te mogen zien. Ze had een denderende kamer onder het dak. centr. verw. enstr. water f.52,50. p.m. Er zijn ±28 jongens en meisjes in huis. In minder dan geentijd zaten we met z'n 4en. Heelgeschikte jongens. Meest studenten. Goed eten etc. Ik hoop dat dit doorgaat.

— 19 maart 1941, Els Polak (Original)

I was just at Prinsengracht 1015. Fantastic! I'd called a girl (a friend of a first-year student) to see her room. She had an amazing attic room. Central heating, electricity, and water cost f.52.50 per month. There are ±28 boys and girls in the house. Before you knew it, there were four of us. Really nice guys. Mostly students. Good food, etc. I hope this works out.

— 19 March 1941, Els Polak (Translation)

These two fragments tell us more about the social and economic conditions of the time, providing a glimpse into daily life, the housing situation, and the interiors of homes during that period. Similarly, such a glimpse is also given by examining linked resources to these identified locations. For instance, the mentioning of the Kempinski hotel is linked, in the data of the Amsterdam Time Machine, through its address, to visual material from the Amsterdam City Archive's Image Bank. In Figure 4, a photograph of Kempinski's interior is shown. The photograph shows the added value of connecting several data sources via a joint unique identifier, in this case the identifier the location infrastructure of the Amsterdam Time Machine. We use the unique identifiers of (historical) addresses to enrich the description of a place in the diary fragments with information from other datasets, even when a writer only gives very brief information (e.g. only an address).

The same is true for written archival sources, such as the *Woningkaarten* [Housing Cards] of Amsterdam that are also kept in the Amsterdam City Archives (see Figure 5). Through such a card, we can easily obtain information on the people that live at a certain address, in this case the student house that Els Polak described: Prinsengracht 1015.

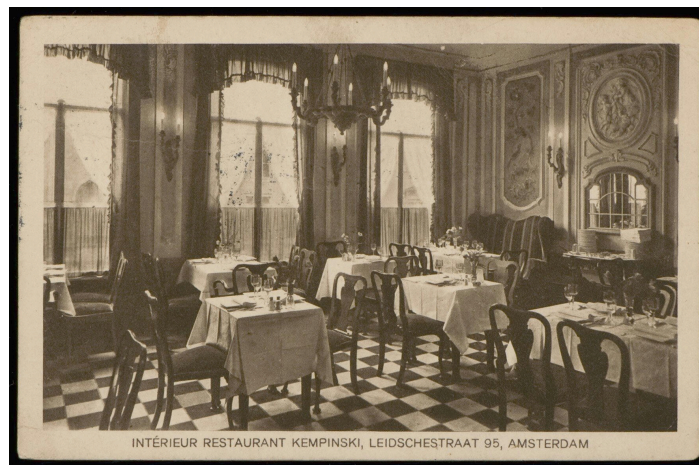


Figure 4: Intérieur [Interior] Restaurant Kempinski, Leidschestrat 95, Amsterdam. Dated ca. 1928. <https://archieff.amsterdam/beeldbank/detail/69e70776-0646-6af1-08a3-94f2b92ec1c8>

1015		Prinsengracht		VI		1)	
Huis		Namen, enz.		Datum		a) Versaar b) Waarheen	
1	de Moor C (Lui 1915)						
2	de Moor van Stokkum, Louis de	19	1	a 3-9-17	a	bezat	
3	Kuiper, Fanny	26	-	b 10-2-17	b	op de 10-2-17	
4	Tolkenhof, Elisabeth BH	23	1	a 23-2-17	a	Thuis	
5	Kennema, Annie	28	1	a 21-1-17	a	op de 21-1-17	
6	Smalbrugge, Gerrit	16	1	b 3/10-17	b	op de 3/10-17	
7	Stellendam, Louis H. T.	30	1	a 10-1-17	a	op de 10-1-17	
8	Boek, Eugene O. L.	19	1	a 10-1-17	a	op de 10-1-17	
9	Eddy, Leendert geb. Boep, Wilhelmina R. F.	12	1	a 10-1-17	a	op de 10-1-17	
10	Steen, Boudy	22	1	a 10-1-17	a	op de 10-1-17	
11	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
12	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
13	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
14	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
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48	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
49	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
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55	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
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73	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
74	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
75	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
76	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
77	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
78	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
79	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
80	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
81	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
82	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
83	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
84	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
85	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
86	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
87	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
88	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
89	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
90	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
91	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
92	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
93	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
94	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
95	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
96	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
97	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
98	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
99	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	
100	Boek, Maria J. G. d.	19	1	a 10-1-17	a	op de 10-1-17	

Figure 5: Housing Card of Amsterdam Prinsengracht 1015, house. <https://archieff.amsterdam/indexen/deeds/9eca6eb4-8f59-4d19-92cd-8172c116c483>

Least locations are mentioned in the diary of Dien Kiewit de Jonge and Gerda Oestreicher. The only location from Oestreicher's diary that we have been able to link is a mention of the *Concertgebouw*, a renowned classical concert hall in Amsterdam, as can also be seen in the fact that this place is mentioned by two other authors as well. Below are excerpts given by all three authors:

Alle bemühen sich weiter um gute Beziehungen und wenn irgendwo in Azien 5 Leute erschossen werden dann stellen sich die Länder auf die Hinterbeine. Tiere dürfen nicht-gequält und gejagt werden die Juden wohl. Im Konzertgebouw die Menschen, die ich sprach, hatten den bekümmerten Ausdruck wie wir ihn in Karlsbad hatten nach Oestreichs Fall, "aufgeschreckt!"

— 15 November 1938, Gerda Oestreicher Laqueur (Original)

Everyone continues to strive for good relations, and if five people are shot somewhere in Asia, countries stand on their hind legs. Animals must not be tortured and hunted, but Jews can be. At the Concertgebouw, the people I spoke to had the troubled expression we had in Karlsbad after the fall of Austria, "startled!"

— 15 November 1938, Gerda Oestreicher Laqueur (Translation)

De volgende avond zijn we met Wally en Wim naar een concert in het concertgeb. geweest. O.l. van Ed. V. Beinum. Willem Mengelberg is gelukkig weg die N.S.B.er. Er ging voor van Beinum een denderend applaus op. Na afloop zijn we met z'n 4en naar de Pr. Gr. Gegaan.

— 25 november 1940, Els Polak (Original)

The following evening, we went with Wally and Wim to a concert at the Concertgebouw, conducted by Ed. V. Beinum. Thankfully, Willem Mengelberg, that NSB member, was gone. There was thunderous applause for Van Beinum. Afterwards, the four of us went to the Pr. Gr.

— November 1940, Els Polak (Translation)

Jantje, Max en ik zijn naar Boyd Boekema gegaan, die in het Concertgebouw speelde. Max is eerst zijn meisje gaan halen. Toen Jantje en ik bij het Concertgebouw aankwamen was daar een geeldige drukte, het was nog niet open. "Hoe komt dat?" Vroegen we natuurlijk. "Er zijn leden van het orkest weggebracht door de Grün Polizei," was het antwoord. We zijn nog een kwartiertje gebleven en hoorden toen dat de voorstelling uitgesteld was tot de volgende Zondag.

— 9 april 1944, Celina Veffer (Original)

Johnny, Max, and I went to see Boyd Boekema, who was playing at the Concertgebouw. Max went to pick up his girlfriend first. When Johnny and I arrived at the Concertgebouw, there was a lot of commotion, and it wasn't open yet. "What's going on?" we naturally asked. "Members of the orchestra have been taken away by the Order Police," was the reply. We stayed for another quarter of an hour and then heard that the performance had been postponed until the following Sunday.

— April 9, 1944, Celina Veffer (Translation)

In all three excerpts, the *Concertgebouw* is mentioned in connection with significant wartime events, both on a continental scale, as seen in Laqueur's account before the war in the Netherlands, and within Amsterdam itself. Together, these fragments provide a window into how a

single location, the *Concertgebouw*, became intertwined with personal and collective memory. Through these excerpts, we gain a deeper understanding of how public spaces in Amsterdam were not just physical locations but were also used as places for social gatherings and information exchange.

Finally, Toby Vos writes four times about her own home. This can partly be explained by her artistic practice, as she created several colorings titled *Vue de mon Bureau* [View from my desk], *Ma fenêtre est ouverte* [My window is open] and *Interieur de ma chambre* [Interior of my bedroom], over a time span of several months. Other locations she refers to include the Vondelpark (a public city park), the Bijenkorf (a major department store), and the Nieuwezijds Voorburgwal, a street in the old center of Amsterdam. For the latter, she also created a drawing titled *N.Z. Voorburgwal bij Mien en Peter* (Street at Mien and Peter), depicting a visit to acquaintances (see Figure 6). This drawing features the Amsterdam canals and the Saint Nicholas Church in the background, offering a personalized artistic glimpse into the street views of Amsterdam during that time.

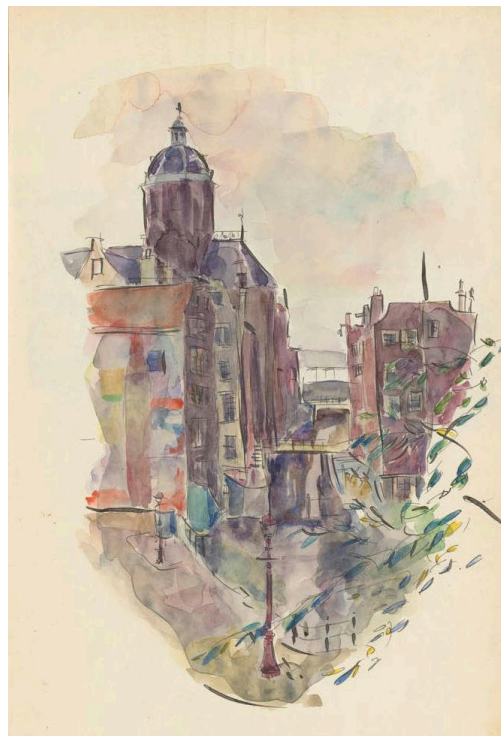


Figure 6: *N.Z. Voorburgwal bij Mien en Peter*. [N.Z. Voorburgwal at Mien's and Peter's place] (1945, Toby Vos)

4. REFLECTION AND CONCLUSION

This study demonstrates the potential of combining digital tools like GIS with life narrative research to create a digital, interactive map of Amsterdam life narratives. By collecting, digitizing, and transcribing historical ego documents, and annotating references to people, organizations, dates, and places, we have been able to link these narratives to the geo-infrastructure of the Amsterdam Time Machine through Linked Open Data. The use of GIS has allowed us to give an initial visualization of these narratives on a spatial aspect, an entrypoint into identifying patterns and clusters of intersecting life stories within and across the material of individual authors. This way of presenting the data highlights how the city played a role in people's lives and how urban spaces influenced their daily experiences.

Moreover, the integration of personal narratives with potential existing statistical (e.g. census data), social economical (e.g. data on migration) and cultural data (e.g. archival documents, as

seen in the example in [Figure 5](#)) on historical Amsterdam could facilitate additional possibilities for research into individual experiences and broader historical contexts. By incorporating life narratives into the Amsterdam geo-infrastructure via Linked Open Data, we not only enrich our own research but also contribute to a larger network of interconnected studies and (digital) heritage within the same geographical area. This approach offers a sustainable framework for preserving and reusing research data and ensuring that it remains accessible for future interdisciplinary research.

Additionally, this integration opens up potential routes for more advanced research in the future, allowing for the exploration of complex urban patterns, the incorporation of additional contextual data, and the possibility of cross-referencing with other linked datasets. The use of these external datasets thus provides a robust foundation for ongoing and future interdisciplinary studies, enabling researchers to uncover new insights into the urban environment and its historical development.

Future steps in the Amsterdam Diaries project will include developing a thesaurus to describe the concepts mentioned in the diaries. This will provide additional methods for interlinking data with other collections and add even more structure to the dataset.

REFERENCES

- Aerts, Janna, Boudewijn Koopmans, and Leon van Wissen. 2023. "Amsterdam Time Machine: Pilot Jewish History of Amsterdam". In . <https://doi.org/10.5281/zenodo.8005670>
- Kahle, Philip, Sebastian Colutto, Günter Hackl, and Günter Mühlberger. 2017. "Transkribus - a Service Platform for Transcription, Recognition and Retrieval of Historical Documents". In *2017 14th IAPR International Conference on Document Analysis and Recognition (ICDAR)*, 4:19–24. <https://doi.org/10.1109/ICDAR.2017.307>
- Presner, T.S., D. Shepard, and Y. Kawano. 2014. *HyperCities: Thick Mapping in the Digital Humanities*. MetaLABprojects Series. Harvard University Press

ENDNOTES

- [1] <https://www.amsterdamtimemachine.nl>
- [2] <https://www.wikidata.org/>
- [3] <https://adamlink.nl/>
- [4] <https://diaries.amsterdamtimemachine.nl/>
- [5] <https://geheugen.delpher.nl/>
- [6] <https://archieff.amsterdam/>
- [6] <https://atria.nl/>
- [7] <https://jck.nl/>
- [8] <https://www.verzetsmuseum.org/>
- [9] <https://iiif.io/api/image/3.0/>
- [10] <https://www.w3.org/TR/json-ld/>
- [11] <https://www.w3.org/TR/annotation-vocab/>
- [12] <https://schema.org>
- [13] <https://openrefine.org/>
- [14] <https://www.w3.org/RDF/>
- [15] <https://github.com/amsterdamtimemachine/amsterdam-diaries-data>
- [16] <https://python-visualization.github.io/folium/latest/index.html>